DA10

Cost-Share:
U.S. Army Corps of Engineers
Cosumnes River Feasibility Study
East Delta Corridor Habitat Study

The Nature Conservancy
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Project Participants and Collaborators:

This proposal is for a grant to The Nature Conservancy to provide funds and in-kind services to the U.S. Army Corps of Engineers, Sacramento District for a feasibility study of ecosystem restoration opportunities (particularly those with flood hazard reduction benefits) on the Cosumnes River. The Corps of Engineers will have overall responsibility for managing and conducting this feasibility study. The Nature Conservancy has agreed, subject to the availability of funding, to be the lead non-federal sponsor of this study. Other agencies have been contacted about participation in this study and have indicated a willingness to participate and to provide funding or in-kind support to the study, including: the Sacramento Area Flood Control Agency (SAFCA); The University of California, Davis, Center for Integrated Watershed Science (UCD); East Bay Municipal Utility District (in association with additional agencies to be determined); and the California Department of Water Resources.

Executive Summary

The Cosumnes River and its associated floodplain present significant ecosystem restoration opportunities, as identified in the ERPP, other agency studies, and studies conducted by and for The Nature Conservancy. Currently, the river system has been degraded due to a variety of stressors. However, because the Cosumnes is the only remaining relatively undammed large river draining the western Sierra Nevada, its natural hydrologic system is largely intact, and unique and important opportunities exist for using the river's natural processes to restore fishery populations (including salmon and splittail), seasonal and tidal wetlands, and Central Valley riparian forest and associated habitats.

The floods of 1997 demonstrated again that suburban and agricultural areas adjacent to the river are susceptible to periodic flooding and related flood damage. A Corps Reconnaissance Study completed in 1991 (in response to the 1986 flood) concluded that there was insufficient

justification for a federal interest in conventional flood control works within the Cosumnes watershed. However, the Corps has identified a compelling federal interest in ecosystem restoration within the Cosumnes corridor and now proposes to initiate and conduct a General Investigation/Feasibility Study with that focus.

The primary focus of the Corps study will be on ecosystem restoration opportunities, including those which present associated opportunities for flood damage reduction. The proposed study will identify, design, and estimate costs for environmental restoration and flood damage reduction opportunities along the Cosumnes River. Implementation of these opportunities will occur in the future as funding and land management allows. Environmental compliance documents as required by the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA) will also be prepared. The general project area is an approximately 40-mile reach of the Cosumnes River from just upstream of the Highway 16 bridge crossing to the confluence with the Mokelumne River, including the reach along the McCormack-Williamson Tract within the jurisdictional Sacramento-San Joaquin River Delta (Delta). The project will be carried out in conjunction with an extensive public involvement program to ensure that all potential stakeholders are provided a format for project-related discussion, education, and decision-making. The project will be managed as a Feasibility Study under the Corps' General Investigation (GI) process. As required in the GI process, the Corps will be the lead federal sponsor with TNC participating as the lead non-federal sponsor. The Corps requires non-federal sponsors to provide 50 percent of the estimated $1 million to $1.5 million project cost. The project will be coordinated with the Mokelumne River Feasibility Study, which is planned to be simultaneously conducted by the Corps and the Mokelumne Restoration Working Group. The Mokelumne study will share several of the same project participants and Corps technical staff.

II. Proposed Scope of Work

The Nature Conservancy's obligation under this grant will be to assure that the granted funds (less normal overhead) are applied toward support (in-kind and/or direct) of the Corps study described in this proposal.

The Corps project is expected to begin in July 1999 and continue to September 2001. A detailed workplan and timeline will be identified in a Project Study Plan (PSP) currently being developed.

The Corps has identified the following tasks and timeline as typical for a project of this nature.

A. Design and initiate a public involvement process. Finalize stakeholder list and identify communication tools, meeting locations, and frequency of meetings necessary to support public outreach, education, inputand decision-making.

Proposed Schedule: Begin in July 1999. Ongoing for entire project including long-term site implementation.

Proposed Deliverables: Mailing list database, meeting summaries, newsletters, fact sheets, project web page, administrative record of collected data.

B. **Refine problems and opportunities, and goals and objectives.** Using input from stakeholders, refine (when appropriate) previously identified problems and opportunities (as defined in previous supporting documents) and identify new problems and opportunities as a basis for focusing the project to key geographic locations in the project area. Identify co-sponsor and stakeholder goals and objectives for the project.

Proposed Schedule: July 1999 to September 1999.

Proposed Deliverable: Problems and Opportunities Summary Report.

C. **Conduct preliminary baseline studies.** Study existing data and conduct limited field surveys on topics including biology, ecology, hydrology and hydraulics, fluvial geomorphology, levee construction and stability, and soils of the project area. Prepare a baseline report of associated topics to establish existing conditions in the project area.

Proposed Schedule: August 1999 to December 1999.

Proposed Deliverables : Existing Conditions Report of baseline information.

D. **Conduct site prioritization.** Identify potential locations for environmental restoration and flood damage reduction projects. Conduct land or easement acquisition appraisals and feasibility studies. Analyze preliminary environmental and flood damage benefits provided at project site. Prepare preliminary cost estimates for implementation.

Proposed Schedule: December 1999 to March 2000.

Proposed Deliverables : Site Prioritization Report, including preliminary cost estimates.

E. **Develop Preliminary Site Designs.** Develop preliminary site designs for environmental restoration and flood damage reduction elements for the priority sites.

Proposed Schedule: March 2000 to June 2000.

Proposed Deliverables : Preliminary Site Design Report

F. **Develop Final Project Design.** Develop final site designs for environmental restoration and flood damage reduction elements for the priority sites.

Proposed Schedule: June 2000 to October 2000

Proposed Deliverables : Final Site Design Report

G. **Define Final Project Benefits.** Conduct and complete an analysis of the ecological and flood damage reduction benefits that will occur as an outcome of project implementation. Benefits will focus on the goals and objectives identified by stakeholders at the beginning of the project.

Proposed Schedule: August 2000 to October 2000.

Proposed Deliverables: None. Results will be included with Final Project Design Report (see above)

H. **Refine Cost Estimates.** Prepare final site specific and total project cost estimates. Estimates may include (but will not be limited to) costs of land acquisitions, easements, and/or land swaps, materials, labor, operations and maintenance, security, and site monitoring. The estimates will also include a benefit/cost analysis using Corps estimating and valuation tools to assess ecological and flood damage reduction benefits compared to time and costs.

Proposed Schedule: October 2000 to January 2001

Proposed Deliverables : Final Site-Specific and Total Project Cost Estimates and Benefit/Cost Assessments

I. **Conduct Environmental Compliance.** Prepare draft and final NEPA/CEQA documents (See Section VI below for information regarding NEPA/CEQA requirements).

Proposed Schedule: January 2001 to September 2001

Proposed Deliverables NEPA/CEQA Environmental Compliance Documents

J. **Project Management.** Conduct ongoing management and project coordination, stakeholder and sponsor communication, budget tracking, project staffing, deliverables scheduling, invoicing, Calfed reporting, progress meeting attendance, integration meeting (with Mokelumne Feasibility Study and Corps staff) ?attendance.

Proposed Schedule: July 1999 to September 2001

Proposed Deliverables: Monthly Project Summary Reports including project status, key milestones achieved, key deliverables distributed (as appropriate), budget, schedule, and

Calfed cost reports.

III. Location of the Project

The study area is in Sacramento and San Joaquin Counties, California. The project area is an approximately 40-mile reach of the Cosumnes River from just upstream of the Highway 16 bridge crossing to downstream of the confluence with the Mokelumne River, including the reach along McCormack-Williamson Tract within the jurisdictional Sacramento-San Joaquin River Delta. The Cosumnes and Mokelumne River Basins drain into the Delta.

IV. Ecological Objectives and Related Benefits

A. Primary ecological /biological objectives

This project sponsors believe that floodplain and levee modifications on the Cosumnes River would achieve one or more ecosystem restoration and flood hazard reduction objectives and that a properly designed and conducted study, with full landowner participation, will elicit and define cooperative approaches to implementing those opportunities. Ecosystem restoration objectives include improving surface water quality, recharging groundwater, avoiding groundwater quality degradation, restoring spawning gravels for salmon and eliminating barriers to migration, expanding rearing habitat for salmon and rearing/spawning habitat for splittail and other native species, expanding the riparian forest and improving conditions for neotropical migrant songbirds, and others.

The overall objective of the project is to implement environmental restoration and flood damage reduction efforts on selected sites that are geographically appropriate and have willing landowners. The project will identify sites on which to implement the strategies developed; these sites will be selected based on willing landowner participation, stakeholder input, acquisition potential, probable costs, and potential for environmental restoration and flood control benefits.

B. Identify the scientific hypothesis/questions to be evaluated through the project

Because the Corps' proposal is for a study process with broad stakeholder involvement, including engineering, modeling, and research components, the identification of issues and hypotheses will be an iterative process involving sponsors, stakeholders, and landowners. Based on prior studies and ongoing discussions with key stakeholders and landowners, the sponsors expect the study to focus on the linked problems of levee location, levee instability, river incision, degradation of fish habitat, degradation of riparian habitat, and increase in flood hazards.

From pilot projects conducted in the lower floodplain on lands within the Cosumnes River Preserve, we believe that natural processes will regenerate riparian forest and seasonally-flooded

fish rearing habitat if the river is reconnected with its historical floodplain. Within the geographic scope of the study area, however, many stretches of the river are so deeply incised that even with the implementation of set-back levees or intentional breaches, the river would remain isolated from the floodplain, except in the case of big storm events. In order to address the goals of this project—the reduction in flood damage and the restoration of riparian habitats—the study must address questions such as:

1. Where will levee setbacks be effective in restoring riparian habitat and fish spawning and rearing habitats, and what setback distance is required?
2. How might effective levee setbacks (and other non-traditional flood damage reduction methods) be coordinated with the needs of agricultural and non-agricultural land owners to remain economically viable and protected from flood damages?
3. What methods should be considered for reversing the incision of the streambed and rebuilding the bed toward historic, stable levels?
4. How might expansion of the floodplain for environmental restoration and/or flood damage reduction affect existing and proposed upstream and downstream conditions?
5. How do the different strategies for improving connectivity to the floodplain and increasing riparian and floodplain habitat reflect in fish, bird, and mammal use, vegetation establishment, water quality and flood water action?
6. What types of restoration and flood damage reduction information can be learned and exported to other watersheds throughout the state from the simultaneous study of the Cosumnes River (an undammed river with a relatively natural hydrologic regime) and the Mokelumne River (a dammed river with a controlled hydrologic regime)?
7. What is the relationship of the various strategies to be considered to groundwater recharge rates? How can groundwater recharge opportunities be maximized?

C. Explain how this project relates to other previously funded phases of the project.

The Nature Conservancy has received prior grants from Calfed for land acquisition, restoration, and management within the Cosumnes floodplain.

V. Monitoring and Data Collection Methodology

Not applicable at this stage. The Corps and its consultants will address monitoring issues programmatically within the study documents and specifically as site-specific activities are designed and implemented. We expect that UC Davis will play a major role in the design and implementation of these monitoring programs.

VI. Technical Feasibility and Timing

Feasibility assessment, screening and site-specific project selection will be an integral part of the study. Generally, preliminary analyses indicate that there are feasible opportunities - with stakeholder support - for additional activities on the lower Cosumnes that improve habitats

for salmon, avian species, and mammal populations, while at the same time reduce flood hazards. Some of these opportunities are described in the preliminary *Lower Cosumnes and Mokelumne Rivers 905(b) Analysis, prepared by the Corps in September 1998.*

Full compliance with NEPA/CEQA will be required for implementation of a program of activities. One of the central purposes of the Feasibility Study is to develop and support an environmental review process appropriate to the project(s) identified. This process may include development of programmatic documents to support a "tiered" review process. Review options will be identified in the PSP. Final decisions among review options will depend upon the nature of the project or projects identified for implementation.

Due to the size of the project area and the issues to be addressed, implementation problems may arise. It is the goal and intent of the project co-sponsors to utilize the public involvement process (discussed in Section II of this document) to alleviate any disputes or outstanding issues that could impede the success of this project.

VII. Cost and Cost-Sharing

The Nature Conservancy proposes that CALFED grant to the Conservancy $400,000 for participation in the study described above. A portion of the funds will be used to fund TNC costs associated with the study (which will be credited by the Corps as in-kind cost-share); another portion will be conveyed to the Corps as a direct cost-share. Study costs, timing, and the source of the remaining non-federal cost-share funds will be defined in the Project Study Plan (PSP) currently being developed. Along with providing an in-depth project description, the purpose of the PSP is to function as a scope of work, cost estimate, and project schedule. The PSP also identifies the roles and responsibilities of each sponsor and co-sponsor for each project task. The Corps has recently initiated the development of the PSP, which will be completed by May 1999. At that time, the information requested for this section will be available. For additional information about costs and budgeting, please feel free to contact the Corps' Cosumnes and Mokelumne Rivers Study Manager, Ms. Jane Rinck at (916) 557-6715.

The cost share of the non-federal sponsor can consist of funding and in-kind services (however, no more than 50 percent of the non-federal portion can be in-kind services). Several other co-sponsors have indicated a desire to be actively involved in the project and to make funding and/or in-kind services available to support the efforts of TNC and the Corps. Specifically, UCD will make staff and funding available to support some of the baseline studies, specific technical evaluations (such as fluvial geomorphological issues), and long term monitoring. SAFCA has recently pledged up to $100,000 of financial support to the project and may also provide staff support. San Joaquin County has recently pledged their support to assist in the development of the project. EBMUD plans also to contribute funding and staff time to assist in the integration of the Cosumnes and Mokelumne projects. Additional organizations such as local Resource Conservation Districts and Reclamation Districts have also expressed an interest in being involved. As the development of the PSP continues, additional stakeholders

will be contacted to discuss the scope of the project.

The Nature Conservancy's obligation under this grant will be to assure that the funds granted pursuant to this proposal (less normal overhead) are applied toward support of the Corps study described above.

Until the PSP is complete, we are unable to provide a projected schedule of expenditures or a specific proposed allocation between in-kind and direct cost-share. We will provide this information to CALFED as soon as it is developed.

VIII. Local Impacts, Support, and Involvement

The Corps study process will be linked closely with the efforts of the Cosumnes River Task Force, a committee chaired by Sacramento County Supervisor Don Nottoli and established to address the long term flood management problems of the Cosumnes River. The Task Force held an organizing meeting in December 1998 and plans monthly meetings in 1999. As presently envisioned by both the Task Force and the partners in the Corps study, the CR Task Force will serve as a key stakeholders' forum to provide input to the Corps study.

IX. Applicant's Ability

The Nature Conservancy is an international, private, non-profit membership organization. Its mission is to preserve plants, animals, and natural communities that represent the diversity of life on Earth by protecting the lands and waters they need to survive. The Conservancy has more than 45 years of experience in identifying, protecting, and managing significant natural areas. Its strength and reputation are built on the organization's policy and practice of applying the best available conservation science and of building partnerships with local communities, private organizations, and public agencies to achieve mutual conservation goals.

The Nature Conservancy of California uses a wide variety of tools to forge solutions to conservation issues. We employ the following four methods most frequently: land acquisition; land management and restoration; land-use planning and conflict resolution; and community education and outreach.

Several of the Conservancy's landmark conservation projects have focused on riparian ecosystems. Conservation efforts aimed at these complex natural communities must include maintaining and restoring the natural processes that are essential to the long-term health of the hydrological system. In addition, The Nature Conservancy strives to balance the protection and restoration of natural communities with compatible human uses.

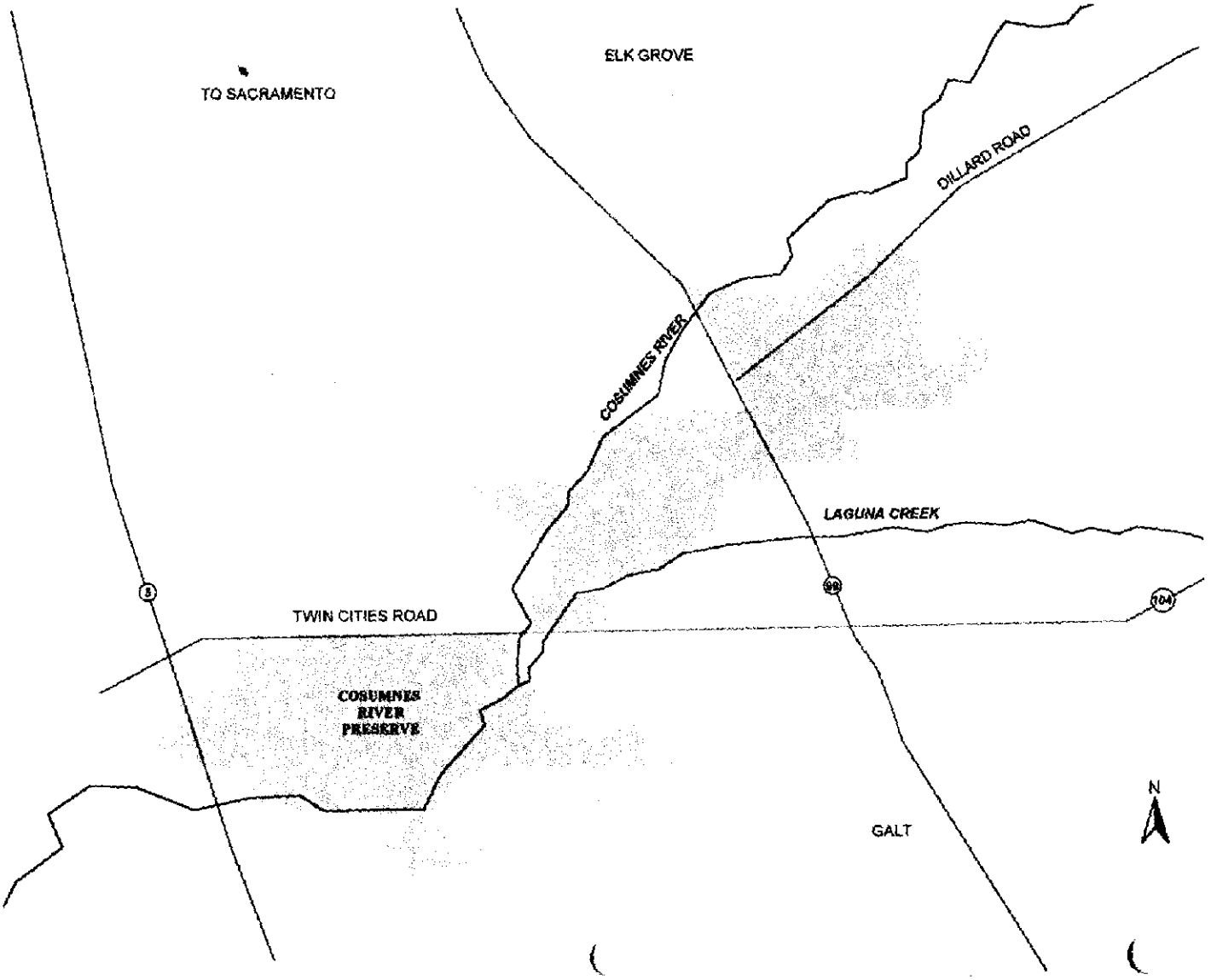
The Nature Conservancy: A Scorecard (as of December 1996)

Acres Protected in the U.S. since 1953:	10,088,000
Acres Protected outside the U.S. with TNC Assistance:	44,000,000
Acres Managed: (Acres the Conservancy owns or has under conservation easement)	1,500,000
Membership:	900,704
Corporate Associates:	1,500
Preserves Under Conservancy Management: (each preserve may be composed of a number of land conservation projects owned in fee or protected by conservation easements)	1,500
Natural Heritage Inventory Programs and Conservation Data Centers:	86

X. Compatability with Non-Ecosystem Objectives

Non-ecosystem objectives include avoiding or minimizing local negative economic impacts and reducing flood hazards for local communities and agricultural operations. The proposed study, and the potential actions that will result, are fully compatible with these non-ecosystem objectives.

COSUMNES RIVER PRESERVE



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